



Genetische Ressourcen und Ernährungssicherung: an international perspective

22.03.2024

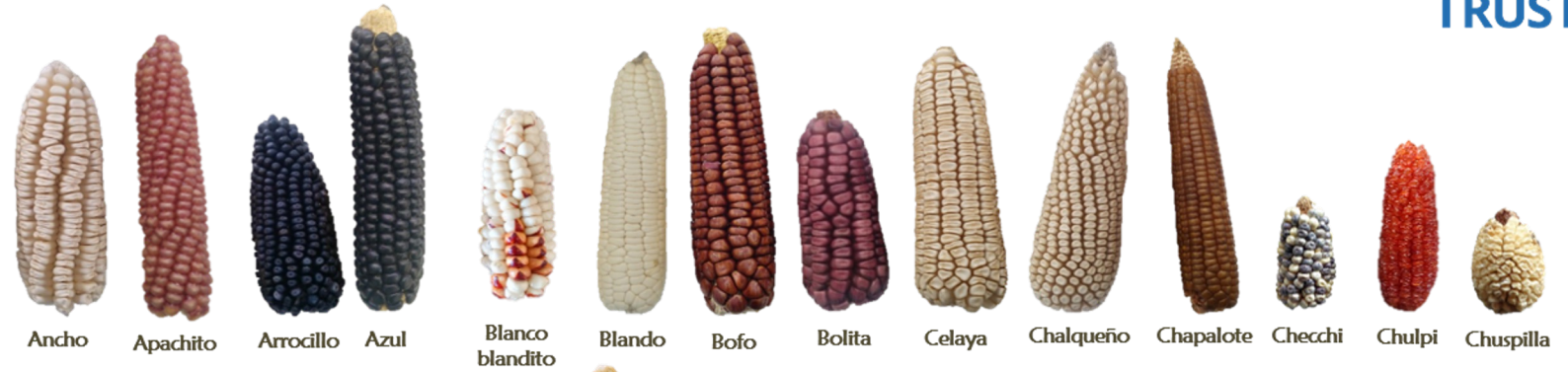




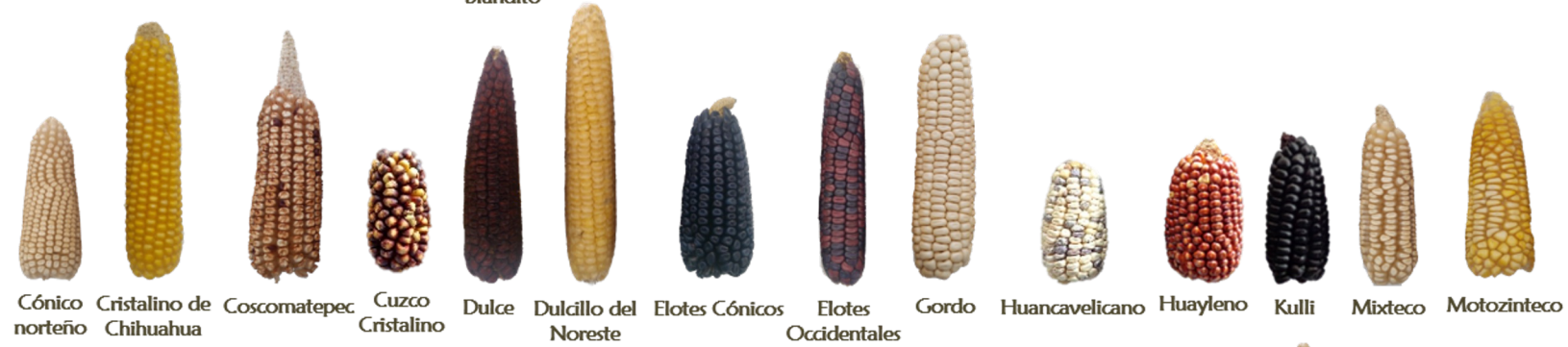


Crop diversity exists
between different crops





And *within* them

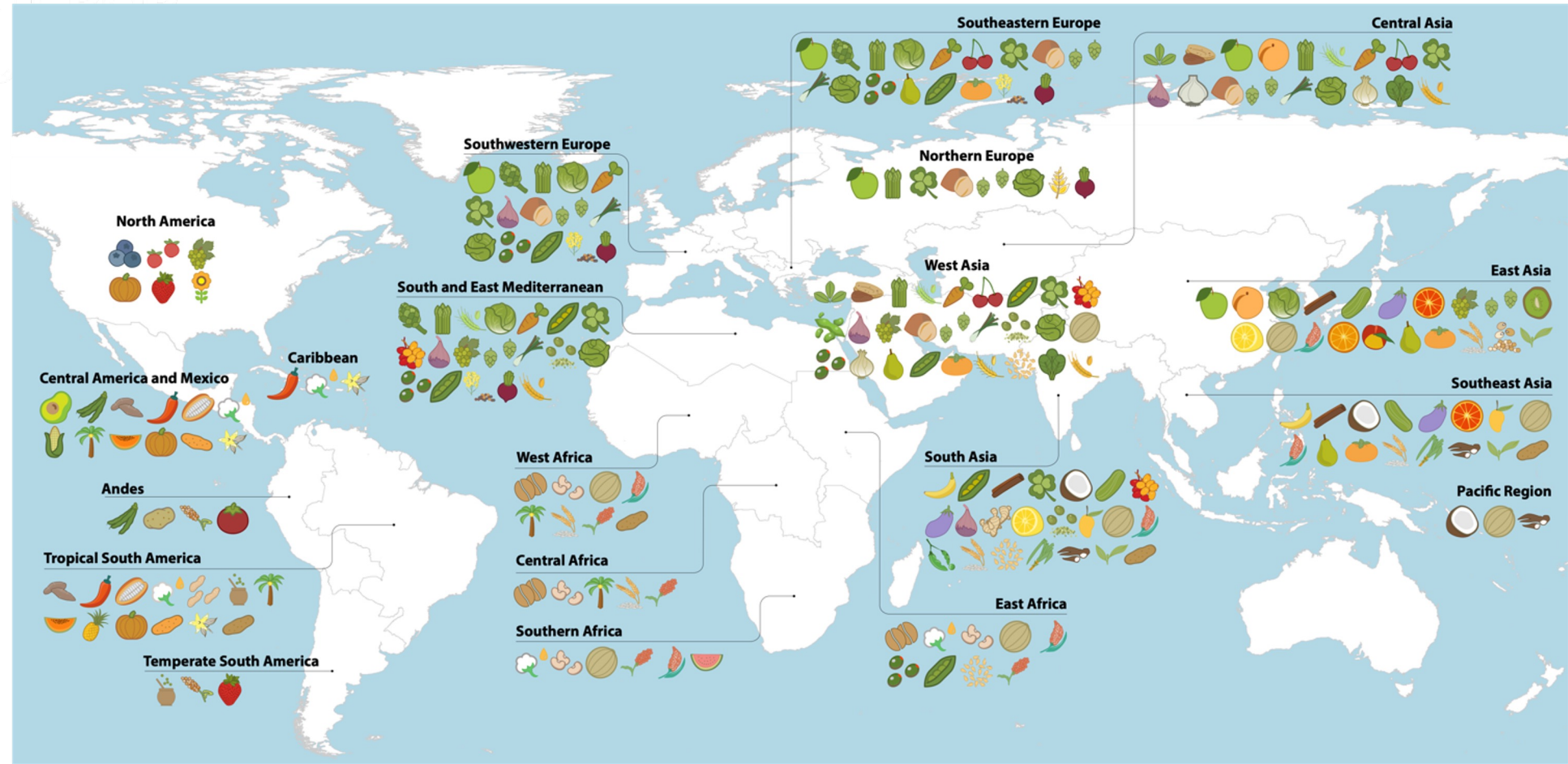


There is even
genetic variation
within the same
variety



ORIGINS AND PRIMARY REGIONS OF DIVERSITY OF AGRICULTURAL CROPS

Khoury CK, Achicanoy HA, Bjorkman AD, Navarro-Racines C, Guarino L, Flores-Palacios X, Engels JMM, Wiersema JH, Dempewolf H, Sotelo S, Ramirez-Villegas J, Castañeda-Álvarez NP, Fowler C, Jarvis A, Rieseberg LH, and Struik PC (2016). Origins of food crops connect countries worldwide. Proc. R. Soc. B 283: 20160792. DOI: 10.1098/rspb.2016.0792.



- | | | | | | | | | |
|---------------------|--------------------|----------------|------------|----------------|----------------------|------------|--------------|----------------|
| Alfalfa | Beans | Clover | Eggplants | Hops | Melons | Pears | Rice | Sunflower |
| Almonds | Blueberries | Cocoa beans | Faba beans | Kiwi | Millets | Peas | Rye | Sweet potatoes |
| Apples | Cabbages | Coconuts | Figs | Leeks | Oats | Pigeonpeas | Sesame | Taro |
| Apricots | Carrots | Coffee | Garlic | Lemons & limes | Olives | Pineapples | Sorghum | Tea |
| Artichokes | Cassava | Cottonseed oil | Ginger | Lentils | Onions | Plums | Soybean | Tomatoes |
| Asparagus | Cherries | Cowpeas | Grapefruit | Lettuce | Oranges | Potatoes | Spinach | Vanilla |
| Avocados | Chickpeas | Cranberries | Grapes | Maize | Papayas | Pumpkins | Strawberries | Watermelons |
| Bananas & plantains | Chillies & peppers | Cucumbers | Groundnut | Mangoes | Peaches & nectarines | Quinoa | Sugar beet | Wheat |
| Barley | Cinnamon | Dates | Hazelnuts | Mate | Rape & mustard seed | Sugar cane | Yams | |

Crop diversity success

The CIP-Matilde potato variety using crop wild relatives, recently released in Peru, shows high levels of resistance to late blight, requiring less spraying.

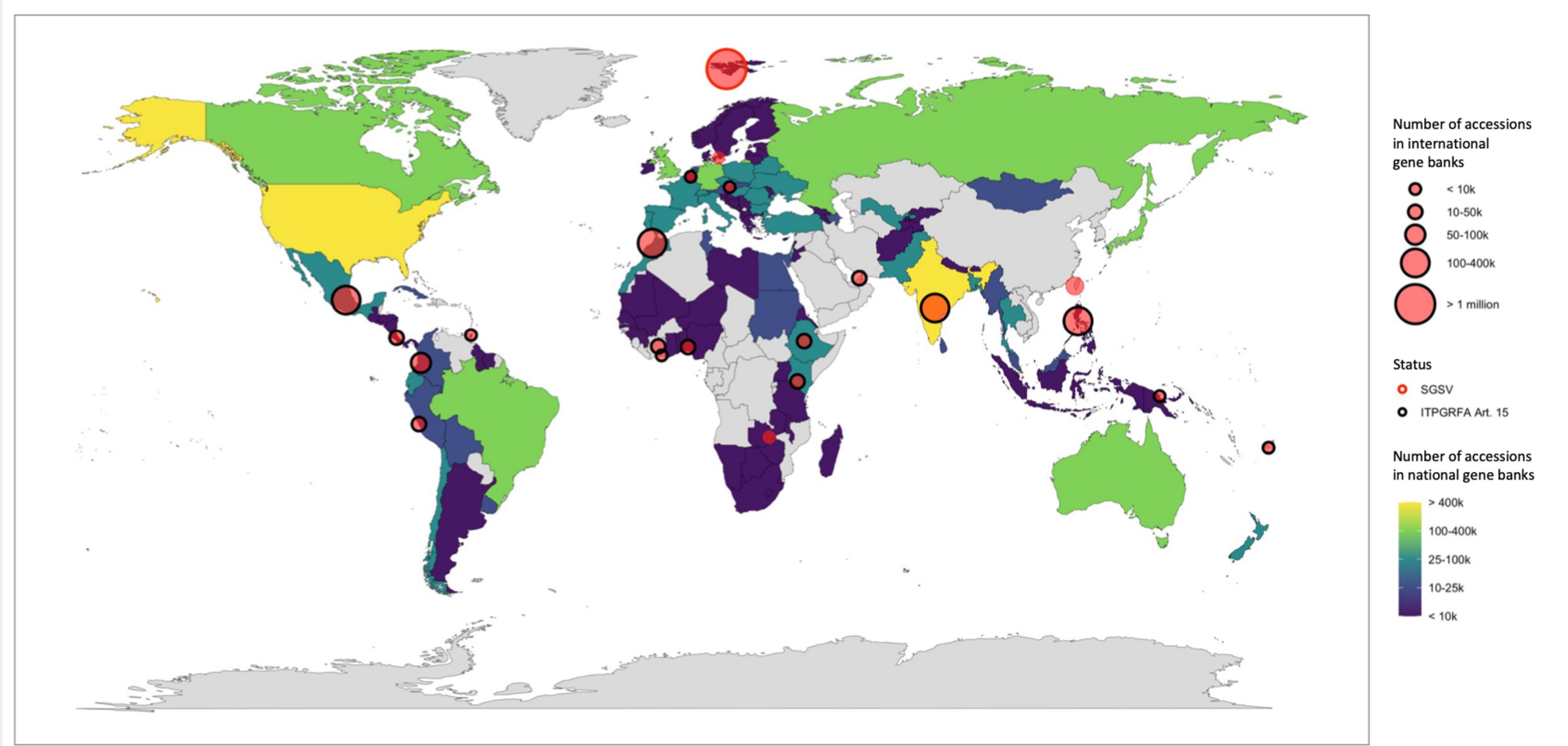
Crop diversity success

The Jabal variety of durum wheat, recently released in Morocco, is the result of many years of work by ICARDA breeders, using crop wild relatives from the genebank, showing promising performance under drought conditions.

Biofortification, increase of nutritional value

Taking a high-yielding crop variety and crossing it with a different crop variety that may not be high-yielding but is nutrient-dense, with higher levels of iron, zinc or pro vitamin A, for example.

Number of samples in national and international seedbanks



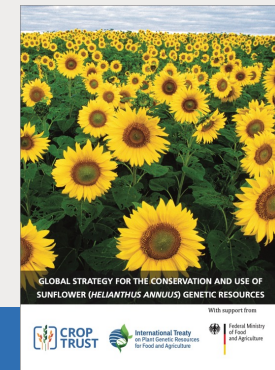
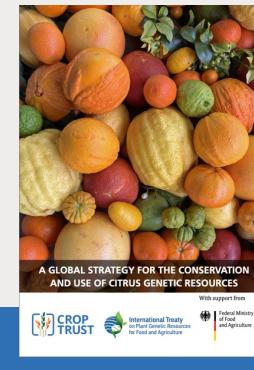
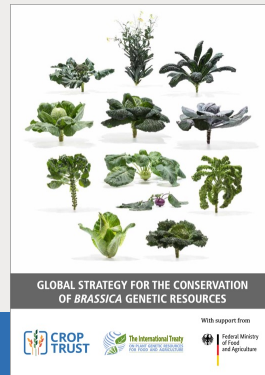
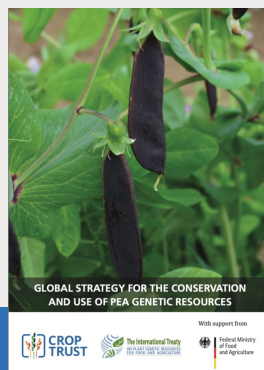
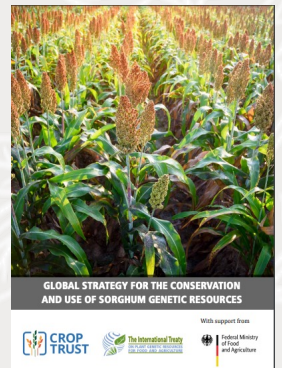
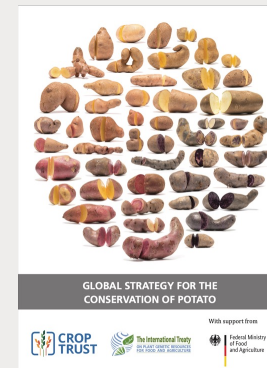
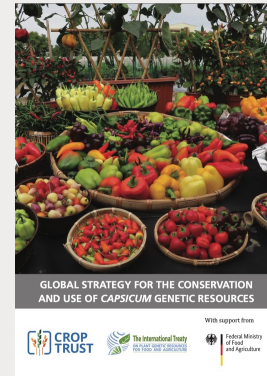
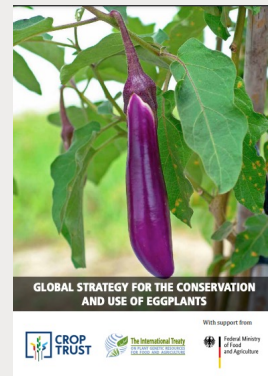
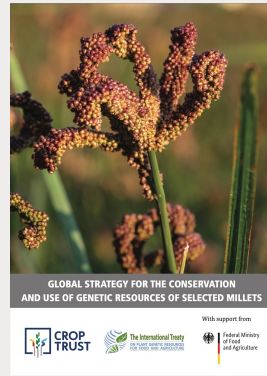
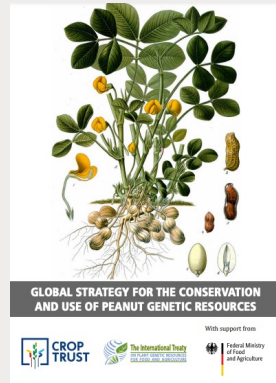
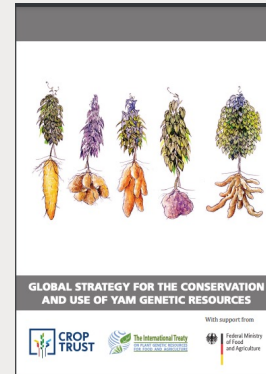
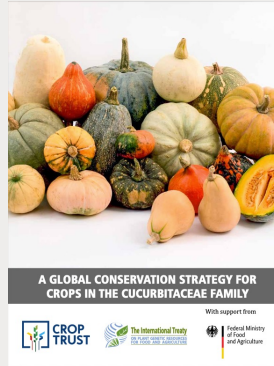


The Crop Trust and *ex situ* collections globally



Breathing New Life into the Global Crop Conservation Strategies

- 2021:
 - Cucurbitaceae
 - Temperate forages
 - Vanilla
 - Yams (expanded update)
- 2022:
 - Peanut
 - Millets (update)
 - Eggplants
 - *Capsicum*
 - Potato
 - Sorghum (update)
- 2023
 - Pea
 - *Brassica*
 - *Vigna*
 - *Citrus*
 - Sunflower





THANK YOU

WWW.CROPTRUST.ORG